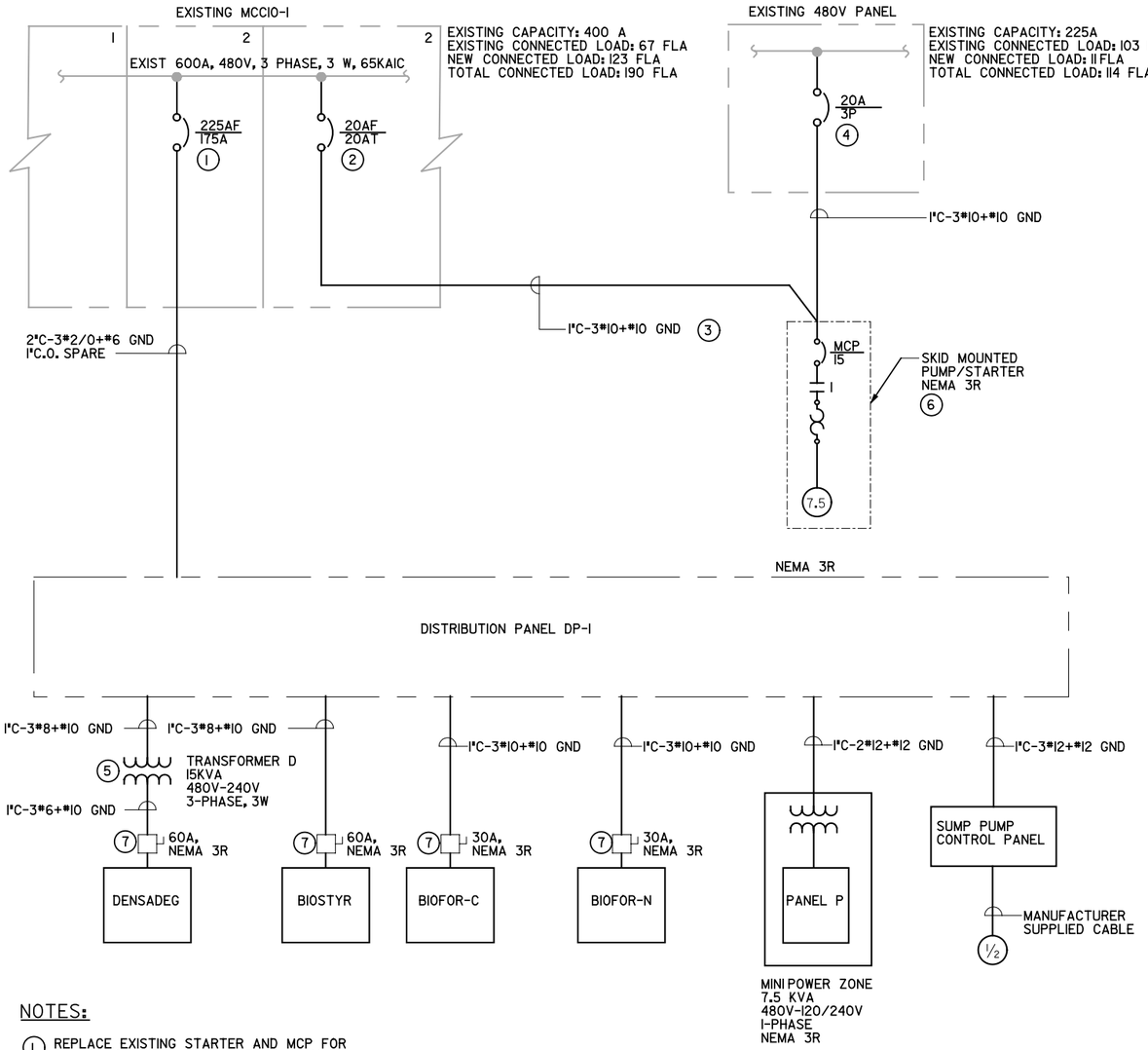

NOTES:

1. REPLACE EXISTING STARTER AND MCP FOR OTI-BLV-02 WITH A 225AF, 175AT, 480V, 65KAIC, 3-POLE MOLDED CASE CIRCUIT BREAKER.
2. REPLACE EXISTING STARTER AND MCP FOR OTI-CPS-01 WITH A 20AF, 20AT, 480V, 65KAIC, 3-POLE MOLDED CASE CIRCUIT BREAKER.
3. FUTURE RELOCATED FEED. REFERENCE ELECTRICAL SITE PLAN FOR RELOCATION.
4. PROVIDE 3-POLE CIRCUIT BREAKER.
5. PROVIDED BY OTHERS.
6. PROVIDE HOA SWITCH AND RUN LIGHT.
7. PROVIDED BY EQUIPMENT MANUFACTURER.

PANELBOARD SCHEDULE

CKT NO	USAGE	QTY	VA PHASE A	VA PHASE B	VA PHASE C	BRKR A/PLS	CKT NO	USAGE	QTY	VA PHASE A	VA PHASE B	VA PHASE C	BRKR A/PLS
1	TRANSFORMER D		5000			30/3	2	BIOSTYR		11085			50/3
3	↓			5000		-	4	↓			11085		-
5	↓				5000	-	6	↓				11085	-
7	BIOFOR UNIT-C		6928			30/3	8	BIOFOR UNIT-N		6928			30/3
9	↓			6928		-	10	↓			6928		-
11	↓				6928	-	12	↓				6928	-
13	MINI POWER ZONE XFMR		1260			20/2	14	SUMP PUMP PANEL		333			20/3
15	↓			540		-	16	↓			333		-
17	SPARE					20/3	18	↓				333	-
19	↓					-	20	SPARE					30/3
21	↓					-	22	↓					-
23	SPACE						24	↓					-
	PHASE VA SUBTOTALS		13188	12468	11928			PHASE VA SUBTOTALS		18346	18346	18346	
								PHASE VA TOTALS		31534	30814	30274	
								PANELBOARD VA TOTALS				92622	
								PANELBOARD AMPS TOTALS				111.4 A	

PANEL NO: DP-1
EQUIPMENT TAG:
LOCATION:
VOLTAGE: 480 VAC
MAIN BREAKER: 225A
BUS SIZE: 225A

MOUNTING:
TYPE: NEMA 3R
PHASE: 3 PHASE
WIRE: 3
SHORT CIRCUIT: 65 KAIC

PANELBOARD SCHEDULE

CKT NO	USAGE	QTY	VA PHASE A	VA PHASE B	BRKR A/PLS	CKT NO	USAGE	QTY	VA PHASE A	VA PHASE B	BRKR A/PLS
1	RECEPTACLES		540		20/1 GFCI	2	RECEPTACLES		720		20/1 GFCI
3	RECEPTACLES			540	20/1 GFCI	4	SPARE				20/1
5	SPARE				20/1	6	SPARE				20/1
7						8					
	PHASE VA SUBTOTALS		540	540			PHASE VA SUBTOTALS		720		
							PHASE VA TOTALS		1260	540	
							PANELBOARD VA TOTALS				1800
							PANELBOARD AMPS TOTALS				7.5 A

PANEL NO: PNL P
EQUIPMENT TAG:
LOCATION:
VOLTAGE: 120/240 VAC
MAIN BREAKER: 40A
BUS SIZE: 40A (MIN)

MOUNTING:
TYPE: NEMA 3R
PHASE: 1PHASE
WIRE:
SHORT CIRCUIT: 22 KAIC

DRAWING NO. E-02
SHEET NO. 20

POINT LOMA WASTE WATER TREATMENT PLANT
BIOLOGICAL AERATED FILTER PILOT STUDY

ELECTRICAL SINGLE LINE DIAGRAM AND PANELBOARD SCHEDULES

CITY OF SAN DIEGO, CALIFORNIA
SHEET 20 OF 22 SHEETS

WATER W.O. NA
SEWER W.O. NA

PROJECT MANAGER ____ DATE ____

DESIGN ENGINEER

CONTROL CERTIFICATION

188-1692
LAMBERT COORDINATES

CONTRACTOR ____ DATE STARTED ____
INSPECTOR ____ DATE COMPLETED ____

00000-20-D

REGISTERED PROFESSIONAL ENGINEER
FARSHID F. SHADAN
E 16262
Exp. 12-31-04
ELECTRICAL
STATE OF CALIFORNIA

WARNING
0 1/2 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.

BROWN AND CALDWELL
SUBMITTED: ____ PROJECT MANAGER ____ DATE:
APPROVED: ____ BROWN AND CALDWELL ____ DATE:
APPROVED: ____ DATE:
SCALE HORIZONTAL NONE
VERTICAL NONE

METROPOLITAN WASTEWATER DEPARTMENT
City of San Diego

DRAWING STATUS

NO.	DATE	REQ.	REVISION DESCRIPTION	DRAWN	CKD	APD	PE	EM	QA/QC

DESCRIPTION	BY	APPROVED	DATE	FILMED

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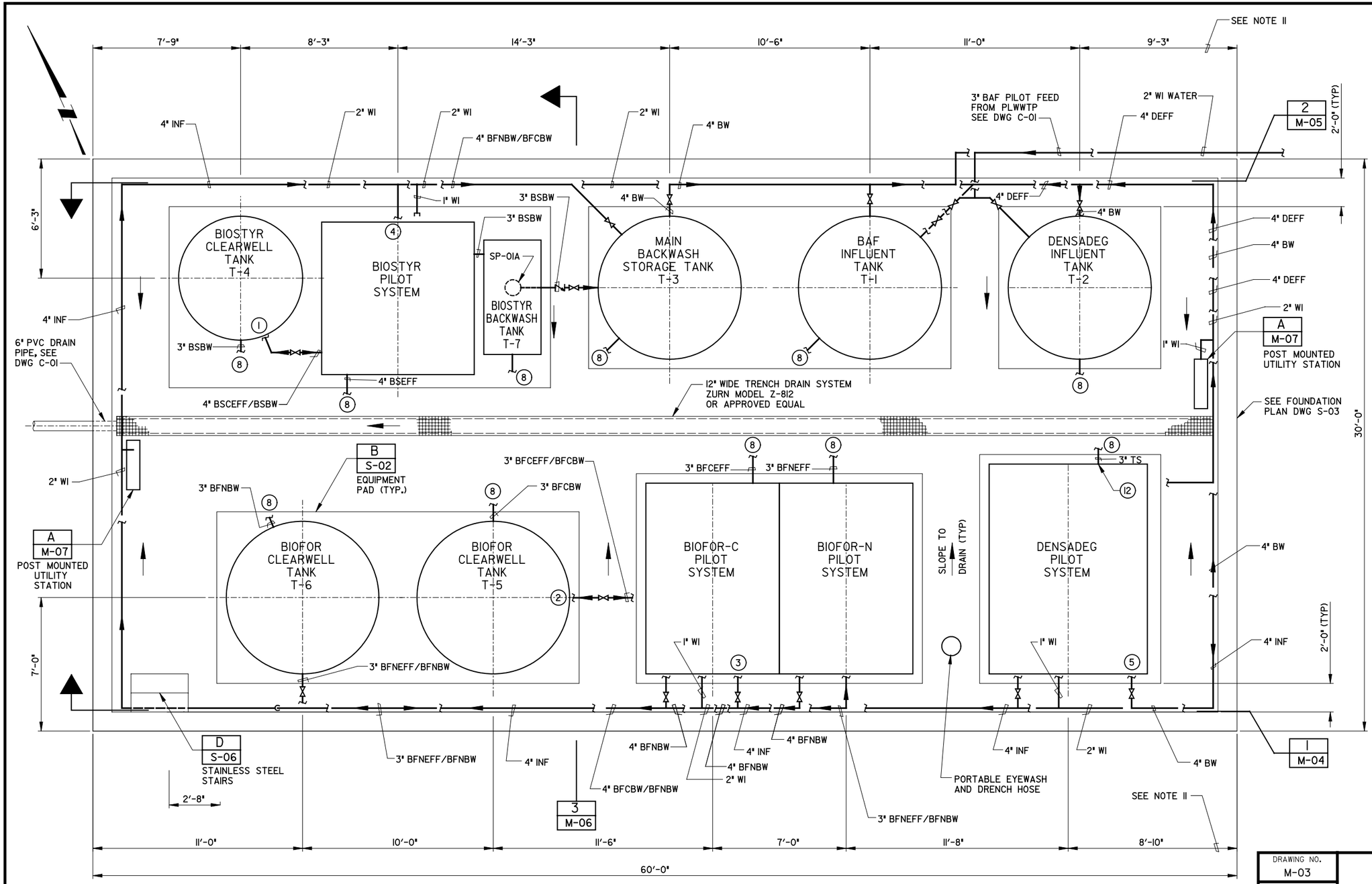
2/4/2005



NOTES:

1. MANUFACTURER SHALL CONNECT BIOSTYR PILOT SYSTEM EFFLUENT PIPING TO CLEARWELL TANK.
2. MANUFACTURER SHALL CONNECT BIOFOR PILOT SYSTEMS EFFLUENT PIPING TO CLEARWELL TANK.
3. MANUFACTURER SHALL CONNECT INFLUENT PIPING TO BIOFOR-C PILOT SYSTEM.
4. MANUFACTURER SHALL CONNECT INFLUENT PIPING TO BIOSTYR INFLUENT INLET.
5. MANUFACTURER SHALL CONNECT 4-INCH BACKWASH PIPING TO DENSADEG PILOT SYSTEM.
6. MANUFACTURER SHALL CONNECT 4-INCH BACKWASH PIPING TO BIOFOR-C PILOT SYSTEM.
7. MANUFACTURER SHALL CONNECT 4-INCH BACKWASH PIPING TO BIOSTYR PILOT SYSTEM.
8. FILANC SHALL PROVIDE 3-INCH TANK OVERFLOW AND TANK DRAIN PER DETAIL "F", DWG. M-07.
9. FILANC SHALL COORDINATE SIZING OF CONCRETE PAD WITH MANUFACTURER.
10. CENTER LINES DISTANCES ARE APPROXIMATE PER NOTE 10, DWG G-02
11. FILANC TO FURNISH PORTABLE EYEWASH AND SHOWER.
12. FILANC SHALL PROVIDE AND INSTALL SAMPLE TAP. LOCATIONS AND QUANTITIES SHALL BE COORDINATED WITH DWG M-01 AND FIELD ENGINEER.
13. FILANC SHALL INSTALL PIPE SUPPORTS PER DETAILS D AND E, DWG M-07 AND SPECIFICATION SECTION 15020.

PIPING SHOWN IS SCHEMATIC ONLY. FILANC SHALL COORDINATE ACTUAL ROUTING AND QUANTITIES IN ACCORDANCE WITH DRAWING M-01 AND BROWN AND CALDWELL'S FIELD ENGINEER

DRAWING NO. M-03
SHEET NO. 8

POINT LOMA WASTE WATER TREATMENT PLANT
BIOLOGICAL AERATED FILTER PILOT STUDY

MECHANICAL PLAN

CITY OF SAN DIEGO, CALIFORNIA
SHEET 8 OF 22 SHEETS

WATER W.O. NA
SEWER W.O. NA

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2/4/2005

REGISTERED PROFESSIONAL ENGINEER JOSHUA A. NEWMAN No. 64115 Exp. CIVIL STATE OF CALIFORNIA

WARNING
0 1/2 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.

BROWN AND CALDWELL
SUBMITTED: PROJECT MANAGER DATE:
APPROVED: BROWN AND CALDWELL DATE:
APPROVED: DATE:
SCALE HORIZONTAL 3/8" = 1'-0"
VERTICAL NONE

METROPOLITAN WASTEWATER DEPARTMENT
City of San Diego

DRAWING STATUS

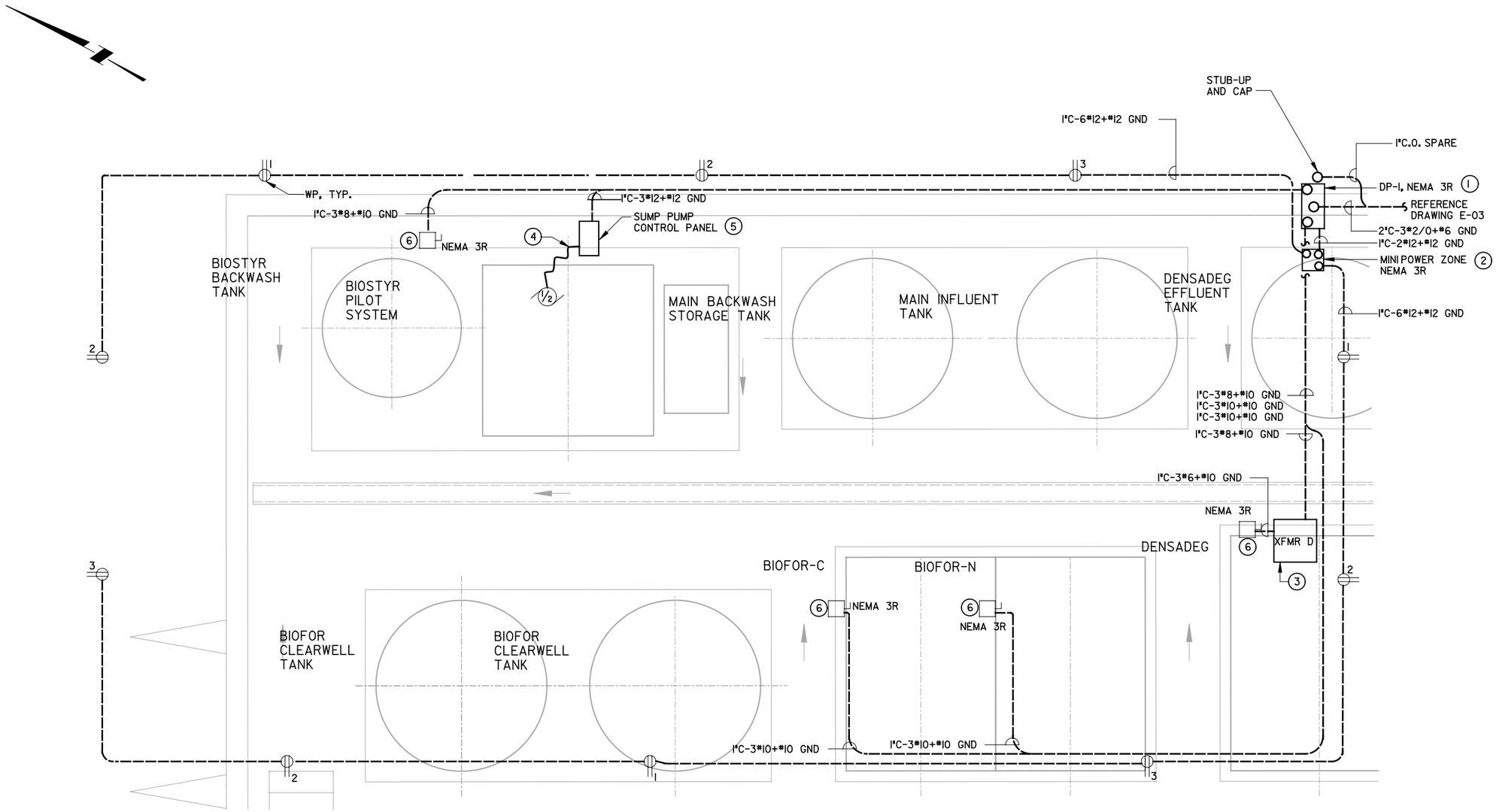
NO.	DATE	REQ.	REVISION DESCRIPTION	DRAWN	CKD	APD	PE	EM	QA/QC

PROJECT MANAGER DATE

DESCRIPTION	BY	APPROVED	DATE	FILMED

CONTRACTOR DATE STARTED
INSPECTOR DATE COMPLETED

DESIGN ENGINEER
CONTROL CERTIFICATION
188-1692 LAMBERT COORDINATES
00000-08-D



NOTES:

1. PROVIDE ALUMINUM SUPPORTS AND ALL NECESSARY HARDWARE FOR MOUNTING DISTRIBUTION PANEL.
2. PROVIDE ALUMINUM SUPPORTS AND ALL NECESSARY HARDWARE FOR MOUNTING MINI POWER ZONE TRANSFORMER AND PANEL.
3. PROVIDED BY OTHERS.
4. MANUFACTURER SUPPLIED CABLE.
5. PROVIDE ALUMINUM SUPPORTS AND ALL NECESSARY HARDWARE FOR MOUNTING NEMA 4X FIBERGLASS SUMP PUMP CONTROL PANEL.
6. PROVIDED BY EQUIPMENT MANUFACTURER.

P:\CAD\24901-BAF\Building Permit\PtL-E04.dgn
2/4/2005

REGISTERED PROFESSIONAL ENGINEER
FARSHID F. SHADAN
E 16262
Exp. 12-31-04
ELECTRICAL
STATE OF CALIFORNIA

WARNING
0 1/2 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.

BROWN AND CALDWELL
SUBMITTED: _____ PROJECT MANAGER DATE: _____
APPROVED: _____ BROWN AND CALDWELL DATE: _____
APPROVED: _____ DATE: _____
SCALE HORIZONTAL 3/8" = 1'-0
VERTICAL NONE

METROPOLITAN WASTEWATER DEPARTMENT
City of San Diego

DRAWING STATUS

NO.	DATE	REQ.	REVISION DESCRIPTION	DRAWN	CKD	APD	PE	EM	QA/QC

DRAWING NO. E-04
SHEET NO. 22

POINT LOMA WASTE WATER TREATMENT PLANT
BIOLOGICAL AERATED FILTER PILOT STUDY

ELECTRICAL POWER PLAN

CITY OF SAN DIEGO, CALIFORNIA
SHEET 22 OF 22 SHEETS

WATER W.O. NA
SEWER W.O. NA

PROJECT MANAGER _____ DATE _____

DESCRIPTION	BY	APPROVED	DATE	FILMED

DESIGN ENGINEER

CONTROL CERTIFICATION

188-1692
LAMBERT COORDINATES

CONTRACTOR _____ DATE STARTED _____
INSPECTOR _____ DATE COMPLETED _____

00000-22-D

EXHIBIT B

PILOT TEST UNIT SPECIFICATIONS

Kruger Products
401 Harrison Oaks Blvd.
Ste. 100
Cary, NC 27513

TELEPHONE 919-677-8310
FACSIMILE 919-677-0082

Technical Addendum to Proposal

USFilter/Kruger Products is pleased to provide an equipment list and technical specifications for the Biostyr® pilot test unit to be used at the referenced site.

BIOSTYR® Pilot Unit

Equipment

The Biostyr® pilot unit contains the following equipment:

One (1) 36" OD tank
Media (4.5 mm polystyrene beads)
One (1) pH meter and transmitter
One (1) dissolved oxygen meter and transmitter
Two (2) flow meters and transmitters
One (1) temperature sensor and transmitter
One (1) 1700 gallon fiberglass backwash tank
One (1) 0.75 HP/1725 RPM motor powering an agitator for backwash tank mixing
One (1) 8.6 SCFM @ 100 PSIG air compressor with 60-gallon horizontal receiver
One (1) compressed air dryer
One (1) process air flow controller
All necessary air distribution piping both for air grid and valves
Two (2) air actuated butterfly valves with actuator and solenoid
Two (2) manual butterfly valves for manual flow adjustments
Two (2) submersible non-clog centrifugal pumps
Two (2) check valves ensuring forward flow
One (1) SCADA system to control and monitor process

Technical Specifications

Dimensions

Biostyr® tower's assembled height is 28'6" in height by 8' wide by 8' in Length.
Biostyr® tower's shipping height is 18'6".
Biostyr® tower weighs approximately 10,000 LBS without water and 13,245 LBS loaded with water.
Control Building is 8'2" in height by 7'7" wide by 12'3" in length
Backwash drain tank is 6'6" OD fiberglass tank and weighs approximately 240 LBS without water and 15,000 LBS with water

Kruger Products
401 Harrison Oaks Blvd.
Ste. 100
Cary, NC 27513

TELEPHONE 919-677-8310
FACSIMILE 919-677-0082

Capacity

Water:
Nominal Flow: 16 GPM
Minimum Flow: 7 GPM

Air:
Forward flow: 2 CFM @ < 10 psi
Backflush: 5 CFM @ < 10 psi

Hydraulic Connections:

Influent:
Customer supplies feed tank. Pre-wired, pre-piped pump is placed in feed tank. US Filter provides approximately 10' of flex hose for immersion in feed tank. Customer provides a standard ¾" hose bib and sufficient garden hose to reach Biostyr® tower.

Effluent:
One (1) 3", 150 LB flange connection for backwash drain tank overflow
One (1) 3" NPT valve to drain 1700 gallon backwash drain tank
One (1) 4", 150 LB flange connection for water back flush discharge
One (1) ¾" nipple connection for compressed air dryer discharge

Electrical

Customer provides 480 volt, 100 Amp service.

Foundation

Customer provides level paved surface to support the Biostyr® tower, the backwash drain tank, and field office.

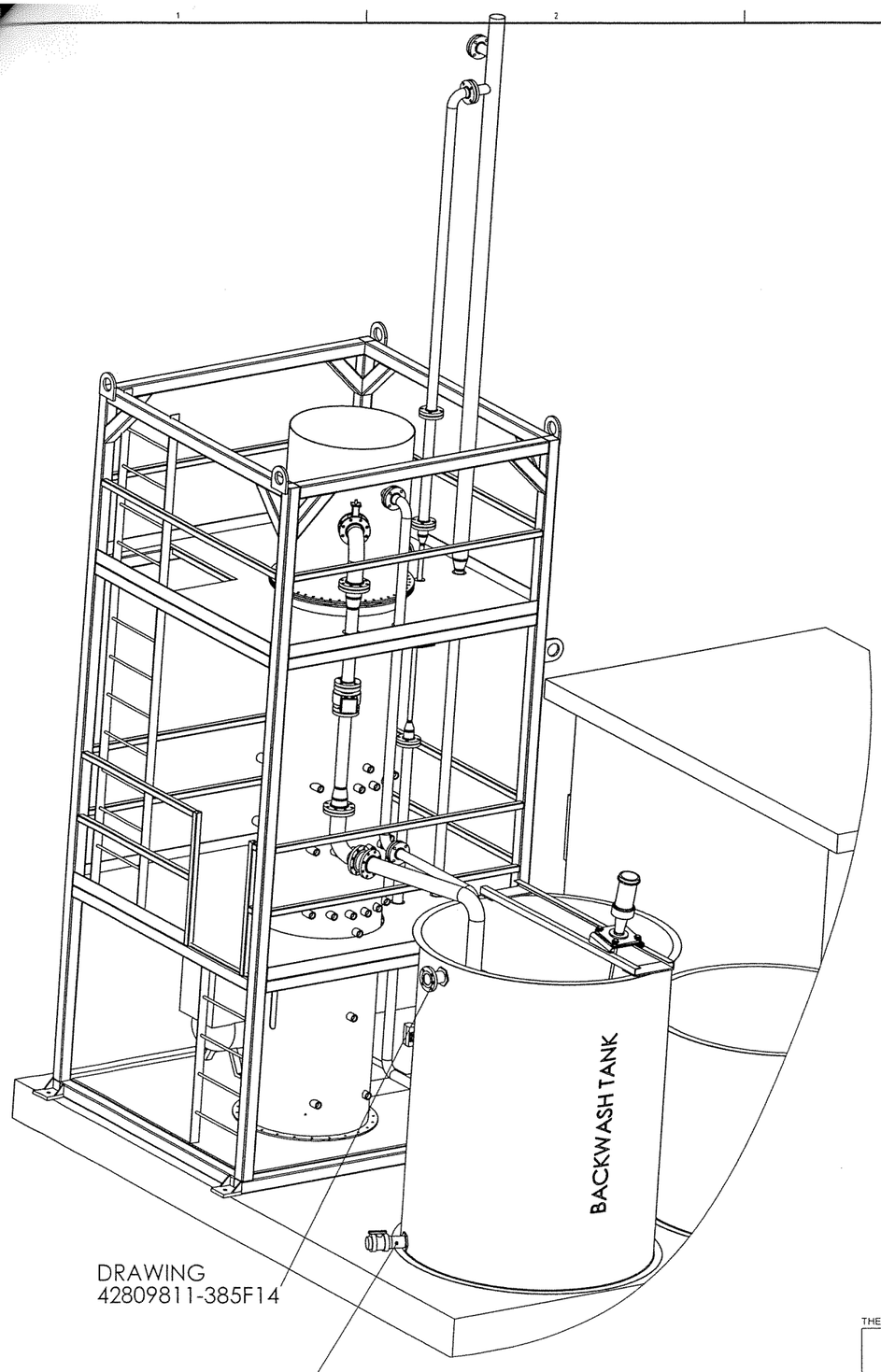
Protocol, Data and Visitation

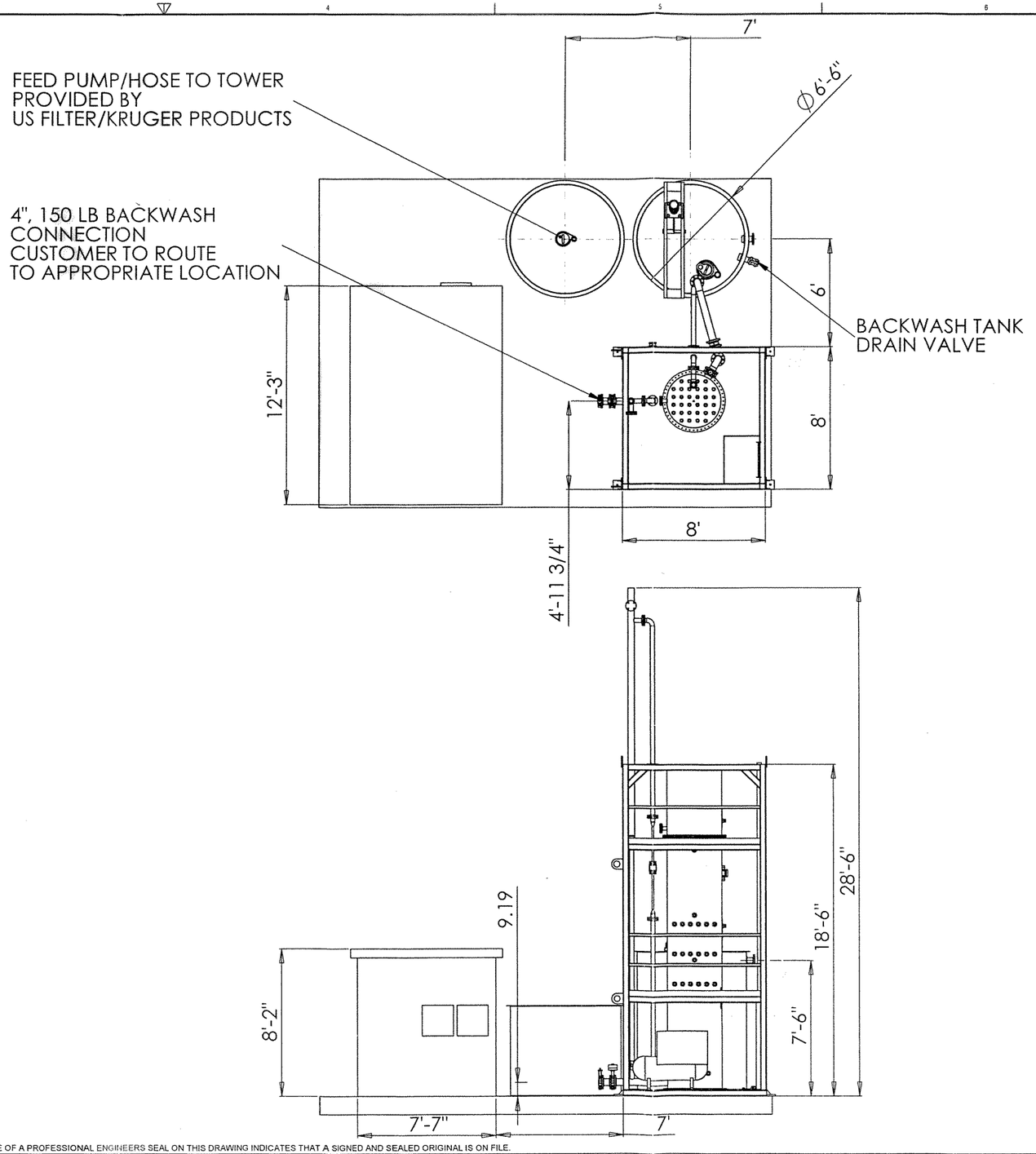
Pilot study protocol must be agreed upon by both the client/engineer and US Filter prior to the start of treatment.

US Filter reserves the right to all data collected (including Biostyr® running conditions and laboratory samples) by the client/engineer or US Filter. All data shall be shared between the client/engineer and US Filter at the time the data is collected or available.

US Filter reserves the right to use any collected data.

US Filter reserves the right to bring visitors to the pilot unit throughout the course of the study.





THE PRESENCE OF A PROFESSIONAL ENGINEERS SEAL ON THIS DRAWING INDICATES THAT A SIGNED AND SEALED ORIGINAL IS ON FILE.

rev	date	description	dwn	chk	appv
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GRAPHICAL SCALE 0 0.5 1 2 3 6

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DESIGNER	SDD
DATE	06.18.03
CHECKER	.
DATE	.
ENGINEER	S.DEAN
DATE	06.18.03
MANAGER	.
DATE	.
FILE:	.
SCALE:	NONE

TITLE: BIOSTYR PILOT SYSTEM
SYSTEM LAYOUT

CLIENT: .

USFilter
KRUGER PRODUCTS
401 HARRISON OAKS BLVD CARY, NC 27513
(919) 677-8310 FAX (919) 677-0082

CLASSIFICATION	PROJECT No.	DRAWING	SHEET	RE
.	42809811	385M001	4 OF 4	0

INTERNAL REF NO:

IF BAR IS NOT 1", ADJUST SCALE ACCORDINGLY

Plotted: Tuesday, July 01, 2003 File Name: C:\Documents and Settings\deans\My Documents\BALTIMORE_PILOT\42809811-385M 001

ONDEO Degremont, Inc.

Technical Data Sheet
Biofor™ Process
(2-Foot Column) Single Stage Unit

Description:
The Biofor™ Pilot Plant accurately simulates the Biofor™ process, a fixed-film aerobic biological treatment system. It operates on the principle of an upflow co-current flow of process and air. The media, Biolite, is an expanded clay material with a high specific area to provide a surface for the biomass to attach to and filter suspended solids.

Weight:
- 10,000 lbs. (shipping)
- 14,000 lbs. (operating)

Overall Plan Area:
- 7'0" x 10'-0" (skid)
- 8'0" diameter x 5'8" (clearwell)

Overall Height:
- 22'-0"

Electrical Requirements:
- 480V, 3 Phase, 25 amps
- Raw Water Pump: 3.0 hp, 60 Hz
- Backwash Pump: 1.5 hp, 60 Hz
- Scour Air Compressor: 2 hp, 60 Hz
- Process Air Compressor: 1 hp, 60 Hz

Connections:
- Influent: 2" half coupling
- Effluent: 4" male NPT
- Service Water: 0.75" female connection

ONDEO Degremont, Inc.

Technical Data Sheet
Biofor™ Process
(2-Foot Column) Single Stage Unit

Process Data:
- Column Area: 3.1 ft^2

Parameters	Process	Carboneous Pollution Removal	Nitrification	Denitirification
Raw Water				
m/h (USGPM/ft^2)	Minimum	4 (1.64)	4 (1.64)	--
	Maximum	20 (8.20)	20 (8.20)	30 (12.26)
Process Air				
m/h	Minimum	4	4	--
	Maximum	15-20	35	--
Loadings	(Maximum)			
kg/m^3/d	COD	15	8	--
	Suspended Solids	5	3	--
	Total BOD_5	6	3	--
	$N\text{-}NH_4$	--	1.6	--
	$NO_3\text{-}N$	--	--	4
Filter Run				
hours	Maximum	48	48	24
Head Loss	(Maximum)			
(per meter of media) height m WC (in WC)		0.4 (16)	0.4 (16)	--

ONDEO Degremont, Inc.

Technical Data Sheet
Biofor™ Process
(1-Foot Column) Single Stage Unit

Description:
The Biofor™ "DN" Pilot Plant accurately simulates the Biofor™ "denitrification" process, a fixed-film anoxic biological treatment system. It operates on the principle of an upflow flow. The media, Biolite, is an expanded clay material with a high specific area to provide a surface for the biomass to attach to and filter suspended solids.

Weight:
- 10,000 lbs. (shipping)
- 12,000 lbs. (operating)

Overall Plan Area:
- 7'0" x 10'-0" (skid)
- 8'0" diameter x 5'8" (clearwell)

Overall Height:
- 22'-0"

Electrical Requirements:
- 480V, 3 Phase, 25 amps
- Raw Water Pump: 3.0 hp, 60 Hz
- Backwash Pump: 1.5 hp, 60 Hz

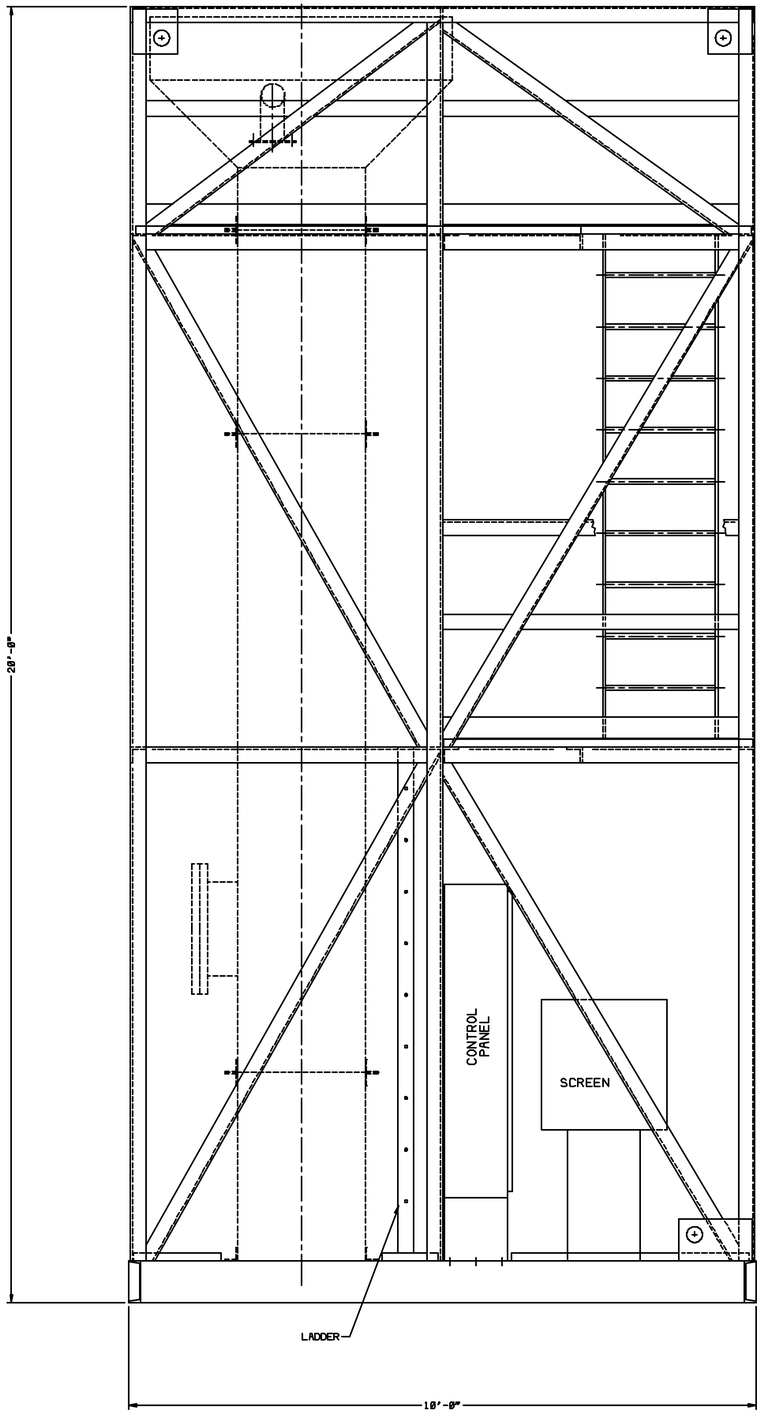
Connections:
- Influent: 2" half coupling
- Effluent: 4" male NPT
- Service water: 0.75" female connection

ONDEO Degremont, Inc.

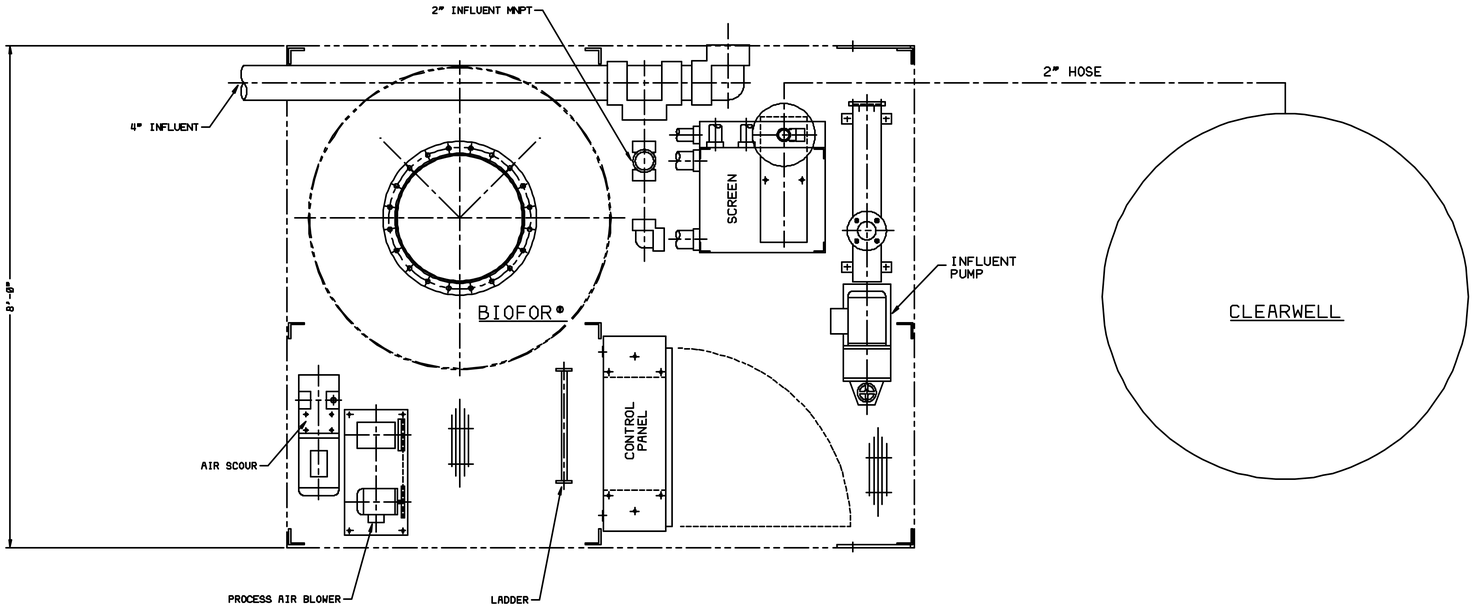
Technical Data Sheet
Biofor™ "DN" Process
(1-Foot Column) Single Stage Unit

Process Data:
- Column Area: 0.78 ft^2

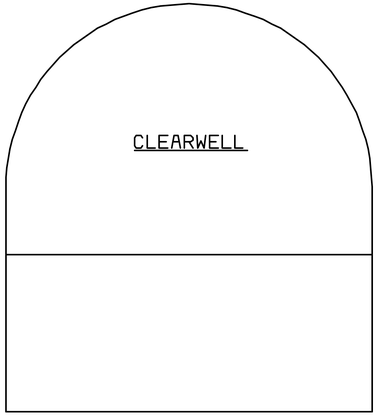
Parameters	Process	Carboneous Pollution Removal	Nitrification	Denitirification
Raw Water m/h (USGPM/ft^2)	Minimum Maximum	4 (1.64) 20 (8.20)	4 (1.64) 20 (8.20)	-- 30 (12.26)
Process Air SCFM	Minimum Maximum	4 15-20	4 35	-- --
Loading kg/m^3/d	(Maximum) COD Suspended Solids Total BOD_5 N-NH_4 NO_3-N	 15 5 6 -- --	 8 3 3 1.6 --	 -- -- -- -- 4
Filter Run hours	Maximum	48	48	24
Head Loss (per meter of media) height m WC (in WC)	(Maximum)	0.4 (16)	0.4 (16)	--



SECTIONAL ELEVATION



PLAN VIEW



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REV	REVISION DESCRIPTION	DRAWN	CHECKED	APP	DATE

REV	REVISION DESCRIPTION	DRAWN	CHECKED	APP	DATE
-	ORIGINAL ISSUE				mm/yy

PROJECT INFORMATION

ONDEO Degremont, Inc.
Post Office Box 71390
Richmond, Virginia 23255-1390
PH: (800) 446-1150

ONDEO Degrémont

	BY	DATE
DRAWN	L.LANGLOIS	
CHECKED	J.LEWICKI	
APP	J.LEWICKI	
REF.		
DO NOT SCALE		
SCALE NONE		

BIOFOR PILOT PLANT
LAYOUT

SIZE D | DWG NO. Ø32Ø97-1427 | REV. -